AR201-13875B

BIODEGRADATION

Test substance: 2-Hydroxy-4-n-Octoxybenzophenone
CAS No. 1843-05-6
Batch No. EN 130125.82

Method: The protocol generally followed OECD Guideline 301 B, (May 1981). The bacterial inoculum was derived from activated sludge of the sewage treatment plant of Reinach, Switzerland (CA – 4153) on 02/10/89. The test medium was prepared according to the method described in the guidelines. 2 Liter flasks equipped with gas inlet and magnetic stirrer were used. The temperature was maintained at 22 °C and the air was at introduced at 25 ml/min and was free of carbon dioxide. The $CO_2$ formed by biodegradation was absorbed with NaOH and measured on a carbon analyzer. Determination of the $CO_2$ was made on days 6, 10, 13, 17, 20 (only for Blank and Reference), 21, 24, 27 and 28. The deviations from the described method are: (1) the volume of the test solution was reduced from 3.0 L to 1.5 L. (2) Due to the poor solubility of the test substance in water, an emulsifier was used to achieve a better distribution in the medium (the test substance was added to the medium and homogenized with Nonylphenol 10EO5PO). The biodegradation was calculated on the basis of the theoretical carbon content of the test substance and the cumulative quantities of carbon dioxide determined on the days of measurements. For this calculation, the formula given in the OECD guideline was used.

Species: Bacteria collected from activated sludge of the sewage treatment plant.

Duration: 28 days

Temperature: $22 \pm 2^0$ C

Air : 25 ml/min free of carbon dioxide

Reference Substance: Aniline MERCK No.: 1261

Concentrations: Reference substance: 20 mg/L containing 0.5 ml of Nonylphenol 10EO5PO solution.

Test substance: 10.7 mg/ L and 20.2 mg/ L.

Blank: Water, as specified in the guideline, containing 0.5 ml of Nonylphenol 10EO5PO solution.

GLP: The study was not conduted under formal GLP procedures. However, qualified personnel, who followed standard methods in a supervised laboratory environment, conducted the test.

Year: 1989

Results: The observed biodegradation was:

| **Test Material** | **Dose** | **Biodegradation in 28 days** |
|---|---|---|
| reference substance | 20 mg/L | 84.3 % |
| test substance | 10.7 mg/L | 6 % |
| test substance | 20.2 mg/L | 5 % |

The test substance is not biodegradable under these experimental conditions. Degradation of the reference substance demonstrated normal activity of the sewage bacteria.

Remarks: This study is assigned a reliability code of 2c (comparable to guideline study with acceptable restrictions) according the criteria established by Klimisch et al (1997).

Reference: Report On The Test For Ready Biodegradability Of TK 10050 In The Modified Strum Test; Project No: 188 45 60; U. Bader, Dr. A. De Morsier; Ciba-Geigy Ltd. Basle, Switzerland.